

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P197188

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SLR-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11585 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

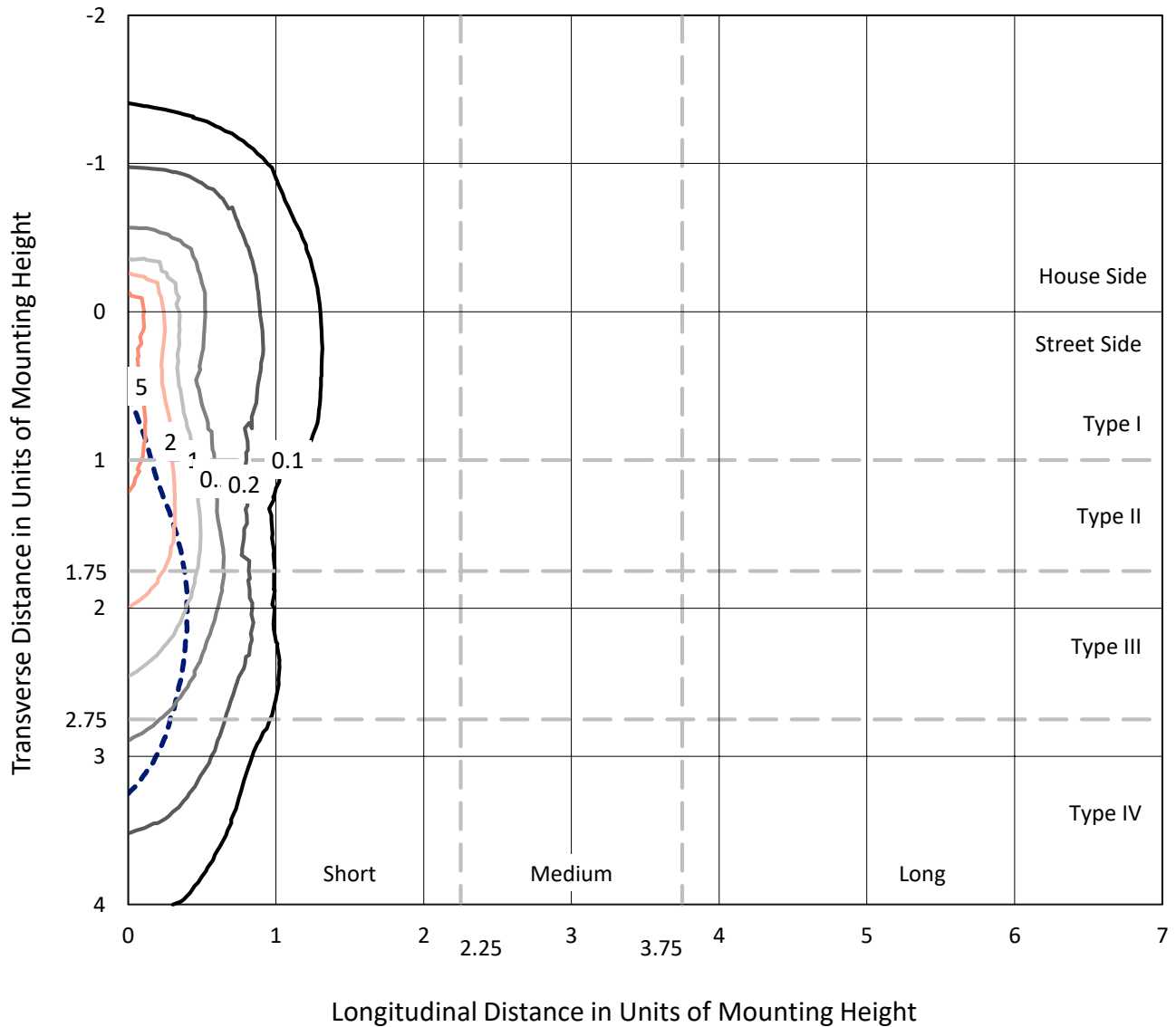


REPORT NUMBER: P197188

CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

Iso-Footcandle Lines of Horizontal Illumination

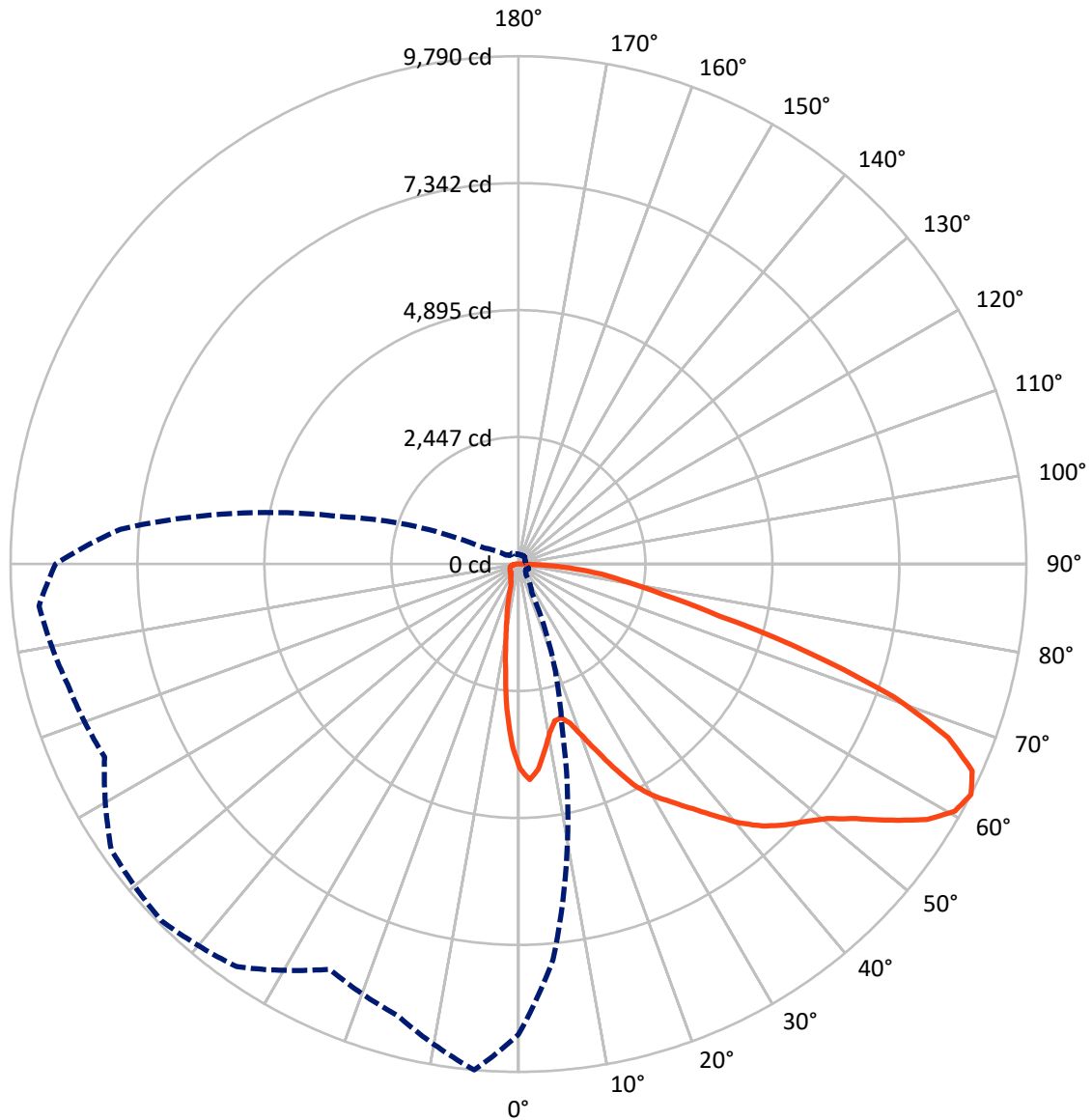
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.9 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P197188
CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

REPORT NUMBER: P197188

CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2052.3	0.0	2052.3
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	9532.7	0.0	9532.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	11585.0	0.0	11585.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.2	2.5
10°-20°	524.6	4.5
20°-30°	754.5	6.5
30°-40°	1155.7	10.0
40°-50°	1689.6	14.6
50°-60°	2458.4	21.2
60°-70°	2848.4	24.6
70°-80°	1484.8	12.8
80°-90°	381.7	3.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	11585.0	100.0
0°-180°	11585.0	100.0

Coefficient of Utilization



REPORT NUMBER: P197188

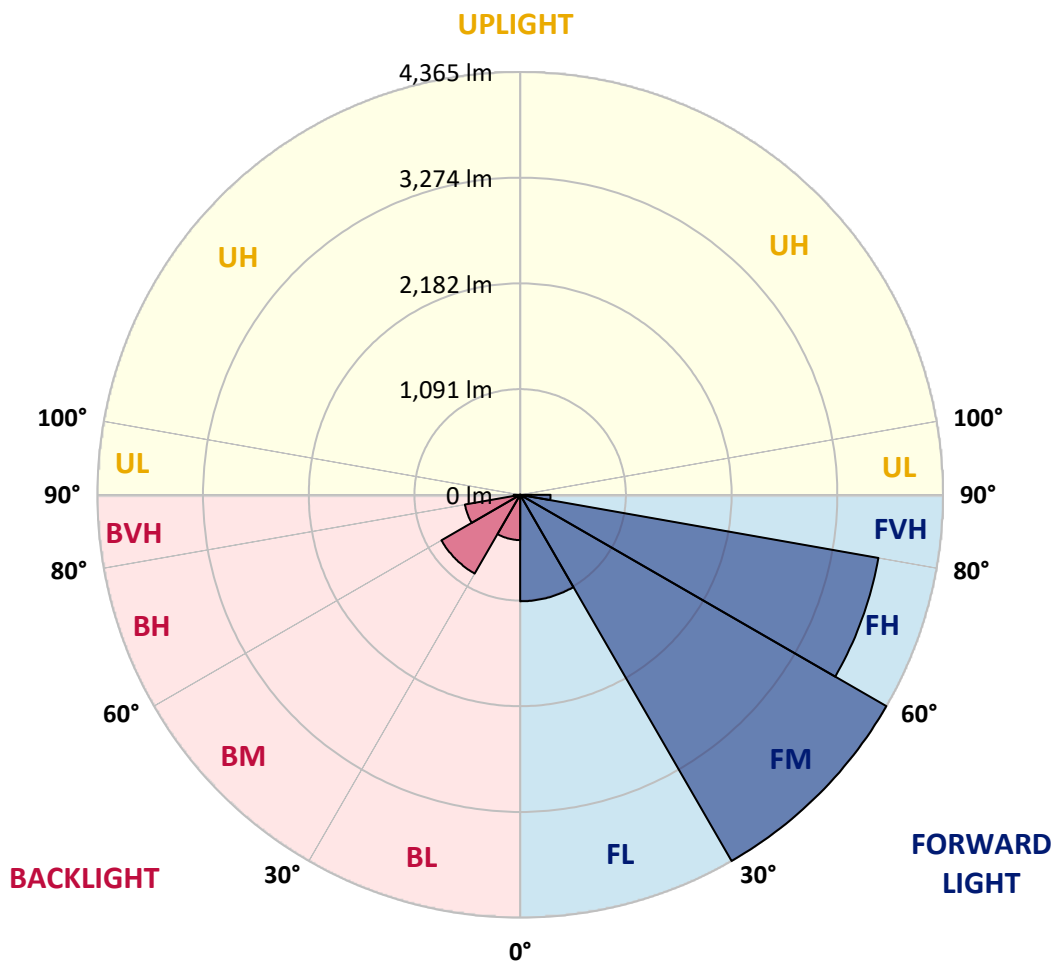
CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1099.5	9.5			
FM	(30°-60°)	4364.7	37.7			
FH	(60°-80°)	3754.5	32.4			G2/5000
FVH	(80°-90°)	314.0	2.7			G3/500
BL	(0°-30°)	466.9	4.0	B1/500		
BM	(30°-60°)	939.0	8.1	B1/1000		
BH	(60°-80°)	578.7	5.0	B2/1000		G2/1000
BVH	(80°-90°)	67.7	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





REPORT NUMBER: P197188

CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6
2.5°	4077.2	4020.1	3888.2	3772.3	3627.8	3519.5	3387.6	3317.9	3266.7	3232.2	3204.5
5°	3808.4	3670.7	3418.7	3197.8	2959.2	2787.0	2585.4	2475.4	2407.4	2370.4	2353.6
7.5°	3409.5	3227.2	2901.3	2604.8	2306.6	2091.5	1938.7	1775.7	1689.2	1632.9	1614.4
10°	3060.9	2855.1	2466.2	2132.7	1902.5	1749.7	1618.6	1469.1	1358.2	1261.6	1225.5
12.5°	2858.4	2619.0	2175.5	1874.0	1680.8	1517.0	1378.4	1217.1	1100.4	999.6	960.9
15°	2815.6	2548.5	2053.7	1709.3	1472.5	1275.1	1108.8	933.2	819.0	735.8	708.9
17.5°	2944.9	2615.7	2002.5	1559.0	1273.4	1032.3	827.4	639.2	544.3	498.9	488.0
20°	3211.2	2763.5	1978.1	1423.8	1080.2	794.6	572.0	434.3	387.2	373.8	372.9
22.5°	3561.5	3003.7	2005.0	1312.9	898.8	586.3	419.1	357.0	337.7	330.1	330.1
25°	3957.1	3328.8	2076.4	1228.0	739.2	456.1	361.2	327.6	311.6	304.1	304.9
27.5°	4440.9	3724.4	2173.9	1149.9	624.9	399.8	337.7	309.1	293.2	285.6	286.4
30°	4805.5	4064.6	2257.8	1078.5	566.1	377.1	325.1	298.2	280.6	269.6	268.8
32.5°	5146.5	4364.5	2325.9	1027.3	532.5	336.8	294.0	273.8	258.7	246.1	243.6
35°	5523.7	4646.7	2357.8	1025.6	510.7	304.1	268.8	244.4	229.3	215.0	212.5
37.5°	5951.2	4992.0	2384.7	1035.7	498.9	283.1	257.0	233.5	220.9	206.6	203.3
40°	6396.4	5329.6	2405.7	1044.1	497.3	268.8	247.8	226.8	214.2	199.1	195.7
42.5°	6778.6	5628.7	2434.2	1040.7	485.5	266.3	241.9	220.9	209.2	194.0	189.8
45°	7084.3	5866.4	2478.8	1039.9	467.9	272.2	240.2	219.2	205.0	189.0	185.6
47.5°	7369.1	6134.3	2572.8	1036.5	448.5	270.5	249.5	217.6	203.3	187.3	184.8
50°	7695.0	6494.7	2733.3	1011.3	421.7	258.7	266.3	215.9	199.1	184.8	182.3
52.5°	8148.6	7022.2	2971.0	966.0	384.7	246.1	268.8	215.0	192.4	179.8	176.4
55°	8682.0	7587.5	3227.2	900.5	336.0	224.3	255.4	211.7	185.6	172.2	167.2
57.5°	9094.4	8005.0	3406.1	806.4	288.1	211.7	227.6	204.1	177.2	163.8	159.6
60°	9210.3	8023.4	3438.0	693.8	263.8	203.3	195.7	222.6	170.5	156.2	152.0
62.5°	9071.7	7656.4	3229.7	614.9	255.4	194.9	178.1	212.5	163.8	149.5	145.3
65°	8661.0	7036.5	2763.5	603.1	263.8	187.3	168.8	169.7	157.1	142.8	138.6
67.5°	7701.7	6124.2	2177.2	610.7	273.8	179.8	162.1	154.6	149.5	136.9	131.9
70°	6263.7	4930.6	1715.2	624.1	283.1	169.7	153.7	144.5	140.3	126.8	124.3
72.5°	4824.8	3946.2	1353.2	614.9	292.3	159.6	142.0	134.4	129.4	116.8	114.2
75°	3426.3	3135.6	994.5	527.5	268.0	145.3	128.5	121.8	117.6	104.2	103.3
77.5°	2469.5	2348.6	692.1	396.5	211.7	127.7	113.4	107.5	105.0	89.9	89.9
80°	1969.7	1787.5	414.1	258.7	154.6	105.8	94.9	92.4	89.9	74.8	75.6
82.5°	1415.4	1239.8	264.6	161.3	113.4	80.6	73.9	73.1	68.9	55.4	55.4
85°	725.7	633.3	169.7	108.4	79.8	52.1	48.7	47.0	44.5	34.4	34.4
87.5°	141.1	194.0	94.1	52.9	38.6	18.5	18.5	16.0	18.5	12.6	13.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197188

CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6
2.5°	3257.4	3240.6	3228.9	3223.0	3307.8	3343.1	3383.4	3441.4	3480.9	3464.1	3517.8
5°	2432.6	2444.3	2471.2	2513.2	2631.6	2687.9	2724.0	2771.9	2806.4	2771.9	2829.0
7.5°	1663.1	1680.8	1737.9	1824.4	1967.2	2030.2	2042.8	2043.7	2036.1	1979.8	2018.5
10°	1224.7	1189.4	1202.0	1264.2	1391.8	1448.1	1454.0	1438.9	1436.4	1413.7	1457.4
12.5°	949.2	900.5	871.9	882.0	977.7	1023.9	1031.5	1039.9	1074.3	1085.2	1139.0
15°	708.1	682.9	661.9	652.7	715.7	751.8	756.0	776.1	812.3	822.3	868.5
17.5°	498.1	504.8	515.7	519.9	565.3	588.8	582.1	582.1	588.0	585.5	611.5
20°	380.5	393.9	414.9	435.1	476.3	489.7	472.9	451.9	438.5	431.7	437.6
22.5°	336.0	345.2	358.7	384.7	419.1	425.9	404.0	387.2	374.6	367.9	368.7
25°	311.6	320.9	331.8	352.8	382.2	385.5	365.4	354.5	344.4	337.7	336.0
27.5°	290.6	296.5	303.2	316.7	346.9	348.6	335.1	328.4	321.7	316.7	315.0
30°	271.3	273.8	276.4	289.8	312.5	315.0	308.3	304.9	302.4	299.0	299.0
32.5°	246.1	249.5	253.7	265.4	287.3	290.6	286.4	283.9	279.7	278.0	275.5
35°	215.9	224.3	233.5	247.8	271.3	273.0	268.0	260.4	250.3	247.8	246.1
37.5°	203.3	205.0	216.7	233.5	257.9	259.6	252.8	240.2	232.7	233.5	235.2
40°	194.9	197.4	204.1	220.9	245.3	247.8	241.9	232.7	225.1	226.0	228.5
42.5°	188.2	191.5	195.7	206.6	231.0	236.0	234.4	226.0	218.4	220.1	223.4
45°	184.8	187.3	187.3	194.9	218.4	226.0	226.8	220.1	214.2	215.9	220.1
47.5°	183.1	183.1	180.6	186.5	210.0	217.6	219.2	215.9	212.5	214.2	218.4
50°	180.6	177.2	174.7	179.8	203.3	210.0	211.7	209.2	210.8	214.2	216.7
52.5°	173.0	169.7	169.7	173.0	196.6	203.3	204.1	202.4	205.8	210.0	214.2
55°	163.8	163.8	164.6	168.0	193.2	198.2	197.4	195.7	199.1	204.1	208.3
57.5°	155.4	154.6	158.8	163.0	189.0	192.4	190.7	190.7	193.2	197.4	201.6
60°	150.4	146.2	149.5	156.2	184.8	188.2	185.6	184.8	189.0	192.4	195.7
62.5°	145.3	141.1	143.6	150.4	178.9	181.4	179.8	179.8	184.0	186.5	189.8
65°	137.8	136.1	137.8	144.5	173.9	174.7	174.7	175.6	178.9	180.6	184.0
67.5°	131.0	131.0	131.9	138.6	169.7	168.0	168.0	172.2	173.0	174.7	178.1
70°	122.6	124.3	124.3	132.7	166.3	160.4	161.3	164.6	166.3	168.0	168.8
72.5°	113.4	114.2	115.9	126.8	161.3	152.9	153.7	156.2	157.1	159.6	160.4
75°	103.3	104.2	106.7	121.0	157.9	145.3	143.6	145.3	147.0	148.7	147.8
77.5°	91.6	93.2	95.8	117.6	147.0	143.6	131.0	132.7	134.4	134.4	133.6
80°	77.3	79.8	84.0	112.6	124.3	138.6	116.8	117.6	118.4	118.4	116.8
82.5°	58.0	63.0	68.9	93.2	97.4	118.4	100.8	102.5	100.0	98.3	97.4
85°	37.8	42.0	50.4	64.7	71.4	93.2	83.2	84.0	79.0	78.1	78.1
87.5°	15.1	16.0	22.7	32.8	42.8	58.0	59.6	61.3	57.1	57.1	58.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197188

CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6
2.5°	3599.3	3683.3	3779.9	3878.2	3958.8	4063.0	4163.8	4271.3	4325.9	4357.8	4447.7
5°	2918.1	3033.1	3170.1	3323.8	3451.5	3669.8	3905.0	4167.1	4293.1	4417.4	4652.6
7.5°	2087.3	2199.9	2359.5	2558.6	2740.0	3028.1	3338.1	3692.5	3867.2	4068.8	4454.4
10°	1549.8	1669.0	1813.5	1982.3	2161.3	2461.1	2808.9	3207.0	3399.4	3627.0	4065.5
12.5°	1256.6	1396.0	1545.6	1696.7	1850.5	2052.1	2416.6	2859.3	3065.9	3295.2	3734.5
15°	980.2	1129.8	1291.0	1455.7	1608.6	1833.7	2205.8	2729.1	2965.1	3186.9	3546.4
17.5°	693.8	834.9	1016.4	1216.3	1438.0	1704.3	2160.4	2786.2	3072.6	3304.5	3545.5
20°	472.9	570.3	751.8	988.6	1262.5	1600.2	2177.2	2986.9	3344.8	3599.3	3690.8
22.5°	378.0	424.2	546.8	787.9	1111.3	1524.6	2246.1	3262.5	3735.4	4045.3	3955.4
25°	343.5	369.6	433.4	622.4	976.9	1474.2	2380.5	3626.2	4173.0	4487.1	4273.8
27.5°	322.5	345.2	386.4	511.5	861.0	1441.4	2551.0	4054.6	4666.1	4923.9	4605.6
30°	309.1	331.8	369.6	459.5	773.6	1392.7	2700.5	4446.0	5060.0	5227.2	4784.5
32.5°	283.1	300.7	331.8	411.6	708.1	1335.6	2829.9	4796.3	5432.1	5487.5	4999.5
35°	256.2	274.7	305.8	372.9	669.5	1291.0	2897.9	5107.0	5800.9	5747.9	5212.9
37.5°	246.1	261.2	289.8	345.2	648.5	1261.6	2923.9	5412.8	6196.5	6036.1	5361.6
40°	239.4	252.8	278.0	326.7	642.6	1233.9	2918.1	5703.4	6580.4	6334.2	5478.3
42.5°	234.4	246.1	269.6	314.2	626.6	1207.9	2898.7	5954.6	6887.8	6591.3	5590.0
45°	230.2	242.8	266.3	320.9	597.2	1179.3	2887.0	6183.9	7123.8	6808.0	5739.5
47.5°	228.5	242.8	267.1	319.2	565.3	1147.4	2929.0	6438.4	7329.6	6990.3	5938.6
50°	226.0	241.9	285.6	304.1	521.6	1107.9	3070.9	6741.6	7545.5	7195.2	6196.5
52.5°	221.8	241.1	304.9	292.3	465.3	1053.3	3301.1	7170.0	7918.4	7594.2	6577.8
55°	216.7	242.8	291.5	273.8	405.7	982.8	3531.3	7757.2	8523.2	8237.6	7125.5
57.5°	210.8	240.2	275.5	257.0	356.1	893.7	3706.0	8238.5	9022.2	8901.2	7798.3
60°	206.6	246.1	247.8	247.0	324.2	808.9	3722.8	8207.4	9165.8	9332.1	8456.9
62.5°	201.6	251.2	226.0	239.4	308.3	729.9	3515.3	7699.2	8923.0	9276.7	8993.6
65°	194.9	219.2	214.2	232.7	308.3	687.9	3032.3	6853.3	8251.9	8752.5	9285.1
67.5°	188.2	199.1	205.8	223.4	315.0	648.5	2436.8	5780.7	7193.5	7906.7	8957.5
70°	178.9	188.2	196.6	215.0	311.6	620.7	1917.7	4633.3	5920.1	6736.6	8051.1
72.5°	170.5	177.2	185.6	202.4	311.6	608.1	1540.5	3634.6	4519.9	5207.8	6669.4
75°	157.9	163.8	171.4	189.8	305.8	556.1	1156.6	2912.2	3307.0	3737.9	5262.4
77.5°	145.3	149.5	155.4	173.9	275.5	464.5	818.1	2255.3	2450.2	2688.8	4102.4
80°	129.4	132.7	136.9	155.4	228.5	360.3	532.5	1763.9	1832.0	1947.1	2698.8
82.5°	110.9	115.9	116.8	133.6	184.0	261.2	316.7	1208.7	1207.9	1376.7	1904.2
85°	90.7	93.2	94.9	105.0	136.1	173.9	208.3	660.2	588.8	824.9	1653.9
87.5°	68.0	65.5	68.0	70.6	89.9	102.5	111.7	121.8	73.1	149.5	961.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197188

CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030-600

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6	3949.6
2.5°	4495.5	4545.1	4515.7	4480.4	4392.2	4262.9	4163.8	4077.2
5°	4815.6	4907.1	4866.8	4735.8	4507.3	4247.7	3974.8	3808.4
7.5°	4775.3	4956.7	4940.7	4722.3	4394.7	4012.6	3628.7	3409.5
10°	4452.7	4707.2	4750.9	4527.5	4180.6	3753.0	3308.7	3060.9
12.5°	4101.6	4315.8	4404.8	4320.0	3993.2	3559.0	3106.2	2858.4
15°	3807.6	3916.0	4004.2	4058.8	3856.3	3490.1	3070.9	2815.6
17.5°	3590.0	3569.0	3643.0	3774.0	3782.4	3581.6	3230.5	2944.9
20°	3485.1	3320.4	3363.3	3547.2	3762.2	3814.3	3548.9	3211.2
22.5°	3479.2	3222.1	3230.5	3428.8	3820.2	4131.8	3946.2	3561.5
25°	3569.9	3211.2	3218.8	3416.2	3922.7	4451.9	4405.7	3957.1
27.5°	3724.4	3258.3	3253.2	3471.6	4059.6	4719.0	4869.3	4440.9
30°	3891.6	3326.3	3313.7	3560.6	4194.0	4883.6	5198.6	4805.5
32.5°	4099.9	3447.3	3403.6	3690.8	4326.7	5041.5	5480.0	5146.5
35°	4298.1	3624.5	3561.5	3877.3	4468.7	5217.1	5795.0	5523.7
37.5°	4500.6	3889.1	3853.8	4146.1	4669.4	5407.8	6155.3	5951.2
40°	4760.1	4265.4	4248.6	4536.7	4937.4	5616.1	6559.4	6396.4
42.5°	5039.8	4665.2	4650.9	4985.2	5270.0	5825.2	6905.4	6778.6
45°	5324.6	5149.9	5153.2	5464.0	5620.3	6022.6	7177.6	7084.3
47.5°	5660.6	5679.9	5800.0	5960.5	5961.3	6242.7	7418.6	7369.1
50°	6087.3	6320.0	6541.7	6566.9	6305.7	6533.3	7713.5	7695.0
52.5°	6570.3	7058.3	7316.2	7236.4	6641.7	6893.7	8149.4	8148.6
55°	7144.0	7830.2	8073.0	7936.9	7044.0	7363.2	8718.9	8682.0
57.5°	7738.7	8572.8	8768.5	8591.3	7547.2	7910.0	9290.1	9094.4
60°	8381.3	9212.0	9411.1	9144.8	8111.6	8455.2	9668.1	9210.3
62.5°	8802.1	9585.8	9728.6	9473.2	8617.3	9010.4	9789.9	9071.7
65°	8823.9	9337.1	9374.9	9284.2	8832.3	9492.5	9613.5	8661.0
67.5°	8224.2	8254.4	8304.0	8401.4	8372.9	9277.5	8933.1	7701.7
70°	6941.5	6538.4	6701.3	6795.4	7007.1	8251.9	7675.7	6263.7
72.5°	5307.8	4719.0	4903.8	4871.8	5312.0	6768.5	5872.3	4824.8
75°	3820.2	3217.9	3232.2	3233.9	3816.8	5402.7	4004.2	3426.3
77.5°	2596.4	2277.2	2324.2	2294.8	2554.4	4232.6	2882.8	2469.5
80°	1775.7	1767.3	1777.4	1708.5	1703.5	2735.8	2134.4	1969.7
82.5°	1317.1	1217.1	1202.8	1129.8	1305.3	2091.5	1620.3	1415.4
85°	1039.0	673.7	585.5	706.4	1130.6	1924.4	987.8	725.7
87.5°	440.1	264.6	160.4	317.5	628.3	1410.3	273.8	141.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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